



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,139	07/31/2003	Eric Michael Breitung	121277	9469

7590 06/27/2005

General Electric Company
CRD Patent Docket Rm 4A59
P.O. Box 8, Bldg. K-1
Schenectady, NY 12301

EXAMINER

ZERVIGON, RUDY

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding..

Office Action Summary

Application No.

10/630,139

Applicant(s)

BREITUNG ET AL.

Examiner

Rudy Zervigon

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 19-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/31/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

1. Applicant's argument of May 31, 2005 concerning the Examiner's grouping of claims 1-18 is agreed. In response, a new election/restriction grouping is presented below.
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-18, drawn to a delivery device, classified in class 118, subclass 723E.
 - II. Claims 19-31, drawn to a method for gas deposition, classified in class 427, subclass 535.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as process and apparatus (Figure 1; column 6; lines 35-48) for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process as claimed can be practiced by another and materially different apparatus, for example, a microwave plasma as produced in 118/723MW, 156/345.41, or inductive plasmas as produced in 118/723I, 156/345.48.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with Ann M. Agosti on June 23, 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 19-31 are

Art Unit: 1763

withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. Applicant's election with traverse of in the reply filed on is acknowledged. The traversal is on the ground that "the search for the entire application can be made without serious burden", and the the method claims are of a "narrower scope". This is not found persuasive because, firstly, the Examiner has already demonstrated that additional burden is required by the Examiner in expanding his search to method classes and subclasses as detailed above. Further, the Examiner cites that the test for requiring election in Applications with plural inventions is that, as is stated above, the process as claimed can be practiced by another and materially different apparatus, for example, a microwave plasma as produced in 118/723MW, 156/345.41, or inductive plasmas as produced in 118/723I, 156/345.48.

The requirement is still deemed proper and is therefore made FINAL.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 1763

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-18 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/449,975. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of copending Application No. 10/449,975 thermally/electrically isolate a light transmission portion but does not similarly thermally/electrically isolate a process gas transmission portion.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the same isolation means as claimed by copending Application No. 10/449,975 to gas transmission.

Motivation to apply the same isolation means as claimed by copending Application No. 10/449,975 to gas transmission is to thermally and electrically isolate the process gasses for preventing premature reaction(s).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1763

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Countrywood; Joseph et al. (US 6,110,540 A). Countrywood teaches a delivery device (Figure 3B; column 6; line 34 - column 6, line 23) for a thin film deposition or etching apparatus (Figure 1; column 6; lines 35-48), comprising: a heated gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23) for delivering a gas (120; Figure 3B) to a powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23) of the apparatus (Figure 1; column 6; lines 35-48), the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23) maintained under a vacuum (16; Figure 1; column 4; lines 34-49); and a coupling device (110; Figure 1; column 7; lines 15-23) located between the powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23) and the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23), the coupling device (110; Figure 1; column 7; lines 15-23) comprising insulation portion (“ ceramic elements 110”; Figure 1; column 7; lines 15-23), as claimed by claim 1

Countrywood further teaches:

- i. The device of claim 1, wherein the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23) is directly connected to the coupling device (110; Figure 1; column 7; lines 15-23), as claimed by claim 2
- ii. The device of claim 2, wherein the coupling device (110; Figure 1; column 7; lines 15-23) is directly connected to the powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23), as claimed by claim 3

Art Unit: 1763

- iii. The device of claim 1, wherein the thin film deposition or etching apparatus (Figure 1; column 6; lines 35-48) comprises a PECVD apparatus (Figure 1; column 6; lines 35-48), as claimed by claim 4
- iv. The device of claim 1, wherein the insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) is both thermally and electrically insulating, as claimed by claim 5
- v. The device of claim 1, wherein the insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) comprises a plastic or a ceramic material, as claimed by claim 6
- vi. The device of claim 3, wherein the coupling device (110; Figure 1; column 7; lines 15-23) further comprises a flange (outer portion of 110, not labelled; Figure 3B) for maintaining the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23) under a vacuum (16; Figure 1; column 4; lines 34-49), claimed by claim 7
- vii. The device of claim 7, wherein the flange (outer portion of 110, not labelled; Figure 3B) is connected to the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23), the insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) is connected to the powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23), and the insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) and flange (outer portion of 110, not labelled; Figure 3B) are connected to each other, as claimed by claim 8
- viii. A delivery device (Figure 3B; column 6; line 34 - column 6, line 23) for delivering a gas (120; Figure 3B) to a thin film deposition or etching apparatus (Figure 1; column 6; lines 35-48), the system comprising: a heated gas (120; Figure 3B) inlet line (conduit for gas

Art Unit: 1763

from 120; Figure 3B; column 6; line 34 - column 6, line 23) maintained under a vacuum (16; Figure 1; column 4; lines 34-49); and a coupling device (110; Figure 1; column 7; lines 15-23) located between a powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23) of the apparatus (Figure 1; column 6; lines 35-48) and the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23), the coupling device (110; Figure 1; column 7; lines 15-23) comprising thermal and electrical insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23), as claimed by claim 9

- ix. The device of claim 9, wherein the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23) is directly connected to the coupling device (110; Figure 1; column 7; lines 15-23), as claimed by claim 10
- x. The device of claim 10, wherein the coupling device (110; Figure 1; column 7; lines 15-23) is directly connected to the powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23), as claimed by claim 11
- xi. The device of claim 9, wherein the electrical insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) comprises a plastic or a ceramic material, as claimed by claim 12
- xii. The device of claim 11, wherein the coupling device (110; Figure 1; column 7; lines 15-23) further comprises a flange (outer portion of 110, not labelled; Figure 3B) for maintaining the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23) under a vacuum (16; Figure 1; column 4; lines 34-49), as claimed by claim 13

Art Unit: 1763

- xiii. The device of claim 13, wherein the flange (outer portion of 110, not labelled; Figure 3B) is connected to the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23), the insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) is connected to the powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23), and the insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) and flange (outer portion of 110, not labelled; Figure 3B) are connected to each other, as claimed by claim 14
- xiv. A PECVD apparatus (Figure 1; column 6; lines 35-48) containing a delivery system, the system comprising: a heated gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23) maintained under a vacuum (16; Figure 1; column 4; lines 34-49); and a coupling device (110; Figure 1; column 7; lines 15-23) located between a powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23) of the PECVD apparatus (Figure 1; column 6; lines 35-48) and the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23), the coupling device (110; Figure 1; column 7; lines 15-23) comprising insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) and flange (outer portion of 110, not labelled; Figure 3B) device for maintaining the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23) under a vacuum (16; Figure 1; column 4; lines 34-49), as claimed by claim 15
- xv. The device of claim 15, wherein the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23) is directly connected to the coupling device (110; Figure 1; column 7; lines 15-23) and the coupling device (110;

Art Unit: 1763

- Figure 1; column 7; lines 15-23) is directly connected to the powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23), as claimed by claim 16
- xvi. The device of claim 15, wherein the insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) is both thermally and electrically insulating, as claimed by claim 17
- xvii. The device of claim 16, wherein the flange (outer portion of 110, not labelled; Figure 3B) is connected to the gas (120; Figure 3B) inlet line (conduit for gas from 120; Figure 3B; column 6; line 34 - column 6, line 23), the insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) is connected to the powered electrode (18; Figure 1,3B; column 6; line 34 - column 6, line 23), and the insulation portion (" ceramic elements 110"; Figure 1; column 7; lines 15-23) and flange (outer portion of 110, not labelled; Figure 3B) are connected to each other, as claimed by claim 18

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6155200 A

US 5266153 A

US 4719873 A

US 4709656 A

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272.1442. The examiner can normally be reached on a Monday through Thursday schedule from

Art Unit: 1763

8am through 7pm. The official fax phone number for the 1763 art unit is (703) 872-9306. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.

Parviz Hassanzadeh
6/23/15